



RISK MANAGEMENT PLANNING FOR ACCIDENTAL RELEASE PREVENTION

Clean Air Act section 112(r)

FACTSHEET

The purpose of the CAA provisions for accident prevention is to ensure that facilities reduce the likelihood and severity of accidental chemical releases that could harm the public and the environment.

These provisions will also ensure that the public and state and local governments can receive facility-specific information on potential hazards and the steps facilities are taking to prevent accidents.

BACKGROUND

In 1986, the Emergency Planning and Community Right-to-Know Act (EPCRA) was a milestone in federal actions to improve the ability of communities to prepare for and respond to chemical accidents. Under EPCRA, communities must develop emergency response plans, based on information that facilities must provide on the hazardous chemicals they handle. In 1990, Congress included requirements for accidental release prevention regulations in CAA section 112(r). Congress also mandated that the Occupational Safety and Health Administration (OSHA) adopt a process safety management standard to protect workers from the workplace effects of chemical accidents; the standard was issued on February 24, 1992.

SCOPE OF PROPOSED RULE

On October 20, 1993, EPA published a proposed rule under the Clean Air Act (CAA) provisions for accidental release prevention. The rule proposes a risk management program that will apply to facilities that have more than a threshold quantity of a regulated substance. EPA promulgated a list of regulated substances, with thresholds, on January 31, 1994. The proposed program includes a hazard assessment, a prevention program, an emergency response program, registration, and the submission of a risk management plan, which will be available to the public. EPA had a comment period that extended through February, 1994. The Agency also held four public hearings in Washington, D C, Chicago, San Francisco, and Houston at which 126 witnesses testified. EPA received close to 1,000 comments.

EPA proposed a rule for risk management planning, under the CAA section 112(r)(7) in October 1993. It would apply to facilities with more than a threshold quantity of a regulated substance in a process. EPA estimated originally that approximately 115,500 facilities would be potentially affected by the proposed rule, including manufacturers from most manufacturing sectors, cold storage facilities that use ammonia as a refrigerant, public drinking water and wastewater treatment systems, wholesalers of chemicals, propane retailers, utilities, gas processors, gas fields, federal facilities, and mines.

ELEMENTS OF THE RULE

The risk management program consists of three components: a hazard assessment, a prevention program, and an emergency response program, plus a summary plan, as described below. In the **hazard assessment**, facilities would be required to conduct consequence analysis for a range of release scenarios including worst-case and other, more likely, release scenarios. For each scenario, they would assess the quantity released, rate of release, distance in all directions of potential exposures or damage, the popula-

tions within those distances, and potential environmental damage. Facilities would also be required to compile a 5-year accident history.

OSHA's process safety management standard is the foundation for the **prevention program**. With few exceptions, the prevention program requirements are identical to the OSHA standard. These requirements include process safety information, process hazard analysis, standard operating procedures, training, maintenance, pre-startup review, management of change, safety audits, and accident investigation. The main new requirement is that facilities would have to define their management system for implementing the prevention program.

The **emergency response program** would require facilities to develop an emergency response plan, train employees for response actions, maintain response equipment, conduct drills and exercises, and co-ordinate with the Local Emergency Planning Committee.

Under the **risk management plan** requirements, facilities would have to develop a risk management plan that summarizes the full risk management program. It would include the off-site consequence analysis, list the 5-year accident history, outline the major hazards identified through the prevention program and the steps being taken to address them, and summarize the emergency response program. The plan would have to be submitted to the implementing agency, the State Emergency Response Commission, the Local Emergency Planning Committee, the Chemical Safety and Hazard Investigation Board, and would be available to the public.

According to the proposed rule, facilities would be required to register with EPA or the state agency implementing the program and be in compliance within three years of the date of the final rule. The registration would identify the facility and the substances the facility has above the thresholds. The proposed rule also includes a system for auditing and reviewing both the risk management programs and plans.

IMPLEMENTATION

States' Role

States are a key stakeholder in chemical accident prevention as well as control of toxic emissions. Under the CAA, states that implement air permit programs must ensure that facilities are also in compliance with air toxics requirements, including those under 112(r). States will need to implement accidental release prevention requirements, at least for facilities that must obtain a CAA Title V operating permit.

Guidance

EPA plans to prepare comprehensive guidance for states to use to develop and implement accidental release prevention requirements. The guidance would help states co-ordinate such programs with existing air permit, worker safety, public health, and emergency response requirements. When the final rule for risk management planning is promulgated, EPA will also issue guidance to help regulated facilities comply with the risk management program and plan requirements. This guidance would assist facilities with process safety management, off-site consequence assessments, and emergency response planning. In addition, the Agency will prepare model risk management programs and plans for several industry sectors. These models could serve as generic templates for facilities that are very similar and could be adapted to the specific needs of individual facilities. Some sectors that may be candidates for model programs and plans include propane retailers, chlorinators, wholesalers, cold storage facilities, public drinking water systems, and wastewater treatment plants.

Small Business

The proposed rule for risk management planning would affect a substantial number of small businesses. To assist them in understanding the rule and the importance of managing hazardous chemicals safely, EPA plans to publish "plain English" guidance and prepare targeted model risk management programs and plans. Guidance and other technical information will be made available to small businesses through Local Emergency Planning Committees, trade associations and engineering societies, and especially through the Small Business Assistance Program (SBAP) in each state. SBAP centers are mandated under the CAA and must include assistance on accidental release prevention and detection.

CONCLUSION

This milestone rule for risk management planning places the responsibility for safe operation on facilities themselves and will ultimately help lead to a reduction in the number and severity of accidents involving hazardous materials.

FOR MORE INFORMATION...

Contact the Emergency Planning and Community
Right-to-Know Hotline
(800) 424-9346 or (703) 412-9810
TDD (800) 535-7672
Monday-Friday, 9 AM to 6 PM, eastern time

EPA selected these sectors based on their accident histories but sought comment on whether other sectors should be included. An alternative approach would be to extend Tier 3 requirements to all facilities with 100 or more full-time employees; these facilities are likely to have larger quantities of regulated substances on site and to have the resources to implement the rule.

Hazard Assessment

The CAA mandates that facilities conduct a hazard assessment that analyzes the offsite consequences of a range of releases including worst case. Commenters recommended that EPA revise the proposed definition of worst case as an instantaneous release of the entire contents of the process and sought other changes to requirements related to the hazard assessment.

EPA proposed to change the definition of worst-case release to the release of the largest quantity from a vessel or piping failure in a 10-minute period. The offsite consequences of such an event would be analyzed under worst-case meteorological conditions and would consider passive mitigation systems (e.g., diked areas), provided they could withstand the impact of major natural hazards such as floods, earthquakes, or hurricanes. Active mitigation systems might be considered in the analysis of other more likely release scenarios, but not for worst case.

In response to comments, EPA also proposed to allow facilities to analyze a single flammable and a single explosive to represent all affected flammables and explosives on site for the worst case and other more likely scenarios. For each toxic substance, whether it is used in one process or multiple processes, only one worst-case event would have to be analyzed. However, each toxic substance would require at least one other more likely release scenario. These changes would limit the number of analyses facilities would need to conduct.

To reduce the cost burden on facilities and to allow consistent and streamlined assessments, EPA plans to prepare quick reference tables for all listed substances. These tables will enable owners and oper-

ators of facilities to determine impact distances from their release scenarios without air dispersion modeling. EPA will make the tables available for public review and comment before the rule is final.

Also in response to comments, EPA proposed to clarify the detail needed for facilities to define potentially affected populations and environments. For populations, facilities would be able to limit the task to providing information readily available from the U. S. Census. For environments, facilities would be required only to identify whether any sensitive environments were within the impact distances of an accidental release; they would not have to assess potential damage. EPA is seeking comment on a list of sensitive environments.

Accident Information Reporting

The proposed rule required facilities to submit a 5-year accident history as part of the risk management program. EPA sought comment on whether and how it could obtain additional information on significant accidents. One approach would be to require facilities to submit accident investigation reports developed under this rule and other rules, such as OSHA PSM. An alternative would be to limit submissions to these reports but require that reports be submitted only when EPA requests them.

Public Participation

Public interest group commenters asked EPA to mandate public participation in the development or review of the risk management programs and plans. Under the Emergency Planning and Community Right-to-Know Act, facilities are obligated to work closely with their Local Emergency Planning Committees (LEPCs) and to use these entities as a means of informing the public about their operations. EPA did not propose specific requirements but requested comments on steps facilities could take to involve the public in discussions of the content of the risk management programs and plans.

Inherently Safer Technologies and Approaches

Several commenters recommended that EPA require facilities to eliminate, rather than control, hazards. They suggested that facilities be required to analyze alternative approaches to the use of certain substances and processes. EPA believes that process safety management, exercised over time, will lead to measurable improvements in safety. Many facilities already perform analyses of inherently safer approaches when designing new processes or as part of process hazard analyses. EPA encourages facilities to include discussion in the risk management plan of any steps they take to implement inherently safer approaches. The Agency did not propose additional requirements but considered further study of this issue.

Implementation and Integration with State Programs

Commenters asked EPA to explain the relationship of the CAA section 112(r) requirements to the CAA Title V operating permit requirements. About 10 to 15 percent of the facilities subject to the 112(r) requirements must also obtain operating permits under CAA Title V. The CAA section 112(r) rules are applicable requirements for facilities subject to Title V requirements. EPA believes, however, that the risk management planning requirements should not be in the permit and proposed a standard set of Title V permit conditions to meet the 112(r) requirements. The state or local air permitting agency would be required to determine whether the permit conditions have been met and the risk management plan was com-

plete. The decision about whether the plan is complete could, however, be made by the 112(r) implementing agency under a co-operative agreement with the Title V permitting agency.

EPA believes that the risk management planning requirements should be implemented and enforced at the state or local level. EPA encourages states to seek delegation of the program under CAA section 112(l) rules. If a state chooses not to implement the CAA section 112(r) program, EPA, by default, will serve as the implementing agency.

CONCLUSION

EPA encouraged interested parties to submit comments on these issues. The Agency held a public hearing at EPA headquarters on March 31, 1995. Comments have been submitted to the EPA Docket, which are being considered as the Agency prepares the final risk management planning rule.

FOR MORE INFORMATION...

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COMMUNITY RIGHT-TO-KNOW HOTLINE**

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